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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,531	02/17/2004	Takashi Matsumura	848075/0071	1346

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EXAMINER	
HAROON, ADEEL	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/780,531	MATSUMURA, TAKASHI	
	Examiner	Art Unit	
	Adeel Haroon	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The disclosure is objected to because of the following informalities: In Paragraph 16 line 1, the word "radio" is misspelled as "ratio". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 21, and 23-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Olofsson et al. (U.S. 6,668,159).

With respect to claim 1, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal (Column 4, lines 59-63). Olofsson et al. also disclose a measuring unit for measuring a quality of the received signal in step 7 of figure 3 (Column 5, line 65 – Column 6, line 3). Olofsson et al. further disclose predicting a quality of a signal to be received based on the quality of the received signal being previously measured by the measuring unit in step 9 (Column 6, lines 7-8). Moreover, Olofsson et al. disclose judging a probability of continuation of the communication based on the predicted quality and measured quality using the display in figure 5 (Column 6, lines 33-35).

With respect to claim 2, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

With respect to claim 21, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal transmitted from a base station apparatus (Column 4, lines 59-63). Olofsson et al. also disclose measuring a quality of the received signal and detecting a power value based on the received signal (Column 5, line 65 – Column 6, line 3). Olofsson et al. disclose calculating a correction value, N, which must be based on a preset reference value and detected power value since Olofsson et al. uses the term "low BCCH signal strength" (Column 6, lines 15-20). Olofsson et al. further disclose correcting the measured quality of the received signal by the calculated correction value as in predicting the bit rate (Column 6, lines 7-20).

With respect to claims 23, Olofsson et al. disclose detecting a reception power value of the received signal (Column 5, line 65 – Column 6, line 3). Since Olofsson et

al. disclose using a "low BCCH signal strength" value, it is considered inherent that the received power value must be based on a minimum receivable power value in order to make the comparative statement of a "low BCCH signal strength" (Column 6, lines 15-20).

With respect to claim 24, Olofsson et al. shows when the correction value is set to zero in figure 5b indicating that the received power was out of a predetermined range.

With respect to claims 25 and 26, Olofsson et al. further disclose predicting a quality of a signal to be received based on the quality of the received signal being previously measured by the measuring unit in step 9 (Column 6, lines 7-20). Moreover, Olofsson et al. teach notifying the user this predicted value (Column 6, lines 33-35).

With respect to claim 27, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

With respect to claim 28, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal transmitted from a base station apparatus at a variable communication rate (Column 4, lines 59-63). Olofsson et al. also disclose a measuring unit for measuring a quality of the received signal in step 7 of figure 3 (Column 5, line 65 – Column 6, line 3). (Column 6, lines 15-20). Olofsson et al. disclose estimating a prediction value, N, of a communication rate base on the measured quality of the received signal and storing this value (Column 6, lines 7-20). Olofsson et al. disclose measuring an actual communication rate, M, of the received signal in steps 3 and 4 (Column 5, lines 27-56). Olofsson et al. further teach calculating a signal occupation ratio, Predicted Bit Rate, based on the measured communication

rate, M, and prediction value, N Column 6, lines 7-20). Since these steps are repeated as shown by figure 5, it also corrects the prediction value.

With respect to claims 29 and 30, the equation in Column 6, line 15 is interpreted as statistical processing.

With respect to claims 31 and 32, Olofsson et al. disclose notifying the user of the corrected value (Column 6, lines 33-35).

With respect to claim 33, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olofsson et al. (U.S. 6,668,159).

With respect to claim 3, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal transmitted from a base station apparatus at a variable communication rate (Column 4, lines 59-63). Olofsson et al. also disclose a measuring unit for measuring a quality of the received signal in step 7

of figure 3 (Column 5, line 65 – Column 6, line 3). Olofsson et al. disclose calculating an index value, N, based the quality of the signal being received (Column 6, lines 15-20). Olofsson et al. further disclose predicting a quality of a signal to be received based on the quality of the received signal being previously measured by the measuring unit and the calculated index value in step 9 (Column 6, lines 7-20). Since these values are expressed in the equation, Olofsson et al. disclose notifying the index value and prediction value. Olofsson et al.'s radio apparatus differs from the applicant's claimed invention in that Olofsson et al. do not disclose deriving a prediction value based on the measured quality alone. However, since the applicant's first prediction value is based solely on the measured quality and is only used to predict the second prediction value, the second prediction value is based on the measured quality and index value, which is the same as Olofsson et al.'s prediction value. Therefore, it would be obvious to one of ordinary skill in the art to estimate a first prediction value based solely on the measured quality of the signal for the basis of predicting the final prediction value in order to simplify calculations of the final prediction value.

With respect to claim 4, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

With respect to claim 5, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal transmitted from a base station apparatus at a variable communication rate (Column 4, lines 59-63). Olofsson et al. also disclose a measuring unit for measuring a quality of the received signal in step 7 of figure 3 (Column 5, line 65 – Column 6, line 3). Olofsson et al. teaches detecting a

power value based on the receive signal (Column 5, line 65 – Column 6, line 3) and a calculating an index value, N, which must be based on a preset reference value and detected power value since Olofsson et al. uses the term "low BCCH signal strength" (Column 6, lines 15-20). Olofsson et al. further disclose predicting a quality of a signal to be received based on the quality of the received signal being previously measured by the measuring unit and the calculated index value in step 9 (Column 6, lines 7-8). Since these values are expressed in the equation, Olofsson et al. disclose notifying the index value and prediction value. Olofsson et al.'s radio apparatus differs from the applicant's claimed invention in that Olofsson et al. do not disclose deriving a prediction value based on the measured quality alone. However, since the first prediction value is based solely on the measured quality and is only used to predict the second prediction value, the second prediction value is based on the measured quality and index value, which is the same as Olofsson et al.'s prediction value. Therefore, it would be obvious to one of ordinary skill in the art to estimate a first prediction value based solely on the measured quality of the signal for the basis of predicting the final prediction value in order to simplify calculations of the final prediction value.

With respect to claim 6, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

With respect to claims 7 and 9, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal transmitted from a base station apparatus at a variable communication rate (Column 4, lines 59-63). Olofsson et al. also disclose a measuring unit for measuring a quality of the received signal in step 7

of figure 3 (Column 5, line 65 – Column 6, line 3). Olofsson et al. teaches detecting a power value based on the receive signal (Column 5, line 65 – Column 6, line 3) and a calculating an index value, N, which must be based on a preset reference value and detected power value since Olofsson et al. uses the term "low BCCH signal strength" (Column 6, lines 15-20). Olofsson et al. teach that this index value, N, can be based on the quality of the signal being received (Column 6, lines 15-20). Olofsson et al. further disclose predicting a quality of a signal to be received based on the quality of the received signal being previously measured by the measuring unit and the calculated index value in step 9 (Column 6, lines 7-8). Since these values are expressed in the equation, Olofsson et al. disclose notifying the index value and prediction value. Olofsson et al.'s radio apparatus differs from the applicant's claimed invention in that Olofsson et al. do not disclose two separate index values and do not disclose deriving a prediction value based on the measured quality alone. For the case of the two separate index values, it would be obvious to one of ordinary skill in the art to have separate values for quality and power to have a more descriptive index values. Secondly, since the first prediction value is based solely on the measured quality and is only used to predict the second prediction value, the second prediction value is based on the measured quality and index value, which is the same as Olofsson et al.'s prediction value. Therefore, it would be obvious to one of ordinary skill in the art to estimate a first prediction value based solely on the measured quality of the signal for the basis of predicting the final prediction value in order to simplify calculations of the final prediction value.

With respect to claims 8 and 10, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

With respect to claims 11-13, Olofsson et al. disclose detecting a reception power value of the received signal (Column 5, line 65 – Column 6, line 3). Since Olofsson et al. disclose using a "low BCCH signal strength" value, it is considered inherent that the received power value must be based on a minimum receivable power value in order to make the comparative statement of a "low BCCH signal strength" (Column 6, lines 15-20).

7. Claims 14-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olofsson et al. (U.S. 6,668,159) in view of Todd et al. (U.S. 6,035,183).

With respect to claims 14-16, the radio apparatus of Olofsson et al. is described above in the discussion of claims 5, 7, and 9. Olofsson et al. teach detecting base station capabilities and forming an index value from these detected values in steps 3 and 4 of figure 3 (Column 5, lines 56). Olofsson et al. do not expressly disclose that the transmission power is part of the information about the base station and mobile station capabilities. However, Todd et al. disclose a radio apparatus that detects power and quality levels (abstract) and judges the communication rate according to these measurements thus making it analogous art. Todd et al. teach detecting transmission power value, RSSI_REV, from an instruction information included in the received signal (Column 4, lines 63-67). Todd et al. further teach calculating an index value based on

the transmission power value and maximum transmission power value (Column 6, lines 34-42). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicants invention to apply Todd et al.'s transmission power detecting technique in the apparatus of Olofsson et al. in order to judge the communication rate on whichever link, forward or reverse, is the limiting link.

With respect to claims 17 and 19, Olofsson et al. disclose a radio apparatus with a receiving unit, element number 170, for receiving a signal transmitted from a base station apparatus at a variable communication rate (Column 4, lines 59-63). Olofsson et al. teach detecting a power value based on the receive signal (Column 5, line 65 – Column 6, line 3) and a calculating an index value, N, which must be based on a preset reference value and detected power value since Olofsson et al. uses the term "low BCCH signal strength" (Column 6, lines 15-20). Olofsson et al. also disclose a measuring unit for measuring a quality of the received signal in step 7 of figure 3 (Column 5, line 65 – Column 6, line 3). Olofsson et al. further disclose predicting a quality of a signal to be received based on the quality of the received signal being previously measured by the measuring unit and the calculated index value in step 9 (Column 6, lines 7-8). Since these values are expressed in the equation, Olofsson et al. disclose notifying the index value and prediction value. Olofsson et al.'s radio apparatus differs from the applicant's claimed invention in that Olofsson et al. disclose deriving a prediction value based on the measured quality alone. Secondly, since the first prediction value is based solely on the measured quality and is only used to predict the second prediction value, the second prediction value is based on the measured

quality and index value, which is the same as Olofsson et al.'s prediction value. Therefore, it would be obvious to one of ordinary skill in the art to estimate a first prediction value based solely on the measured quality of the signal for the basis of predicting the final prediction value in order to simplify calculations of the final prediction value.

Olofsson et al. teach detecting base station capabilities and forming an index value from these detected values in steps 3 and 4 of figure 3 (Column 5, lines 56). Olofsson et al. do not expressly disclose that the transmission power is part of the information about the base station and mobile station capabilities. However, Todd et al. disclose a radio apparatus that detects power and quality levels (abstract) and judges the communication rate according to these measurements thus making it analogous art. Todd et al. teach detecting transmission power value, RSSI_REV, from an instruction information included in the received signal (Column 4, lines 63-67). Todd et al. further teach calculating an index value based on the transmission power value and maximum transmission power value (Column 6, lines 34-42). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicants invention to apply Todd et al.'s transmission power detecting technique in the apparatus of Olofsson et al. in order to judge the communication rate on whichever link, forward or reverse, is the limiting link.

With respect to claims 18 and 20, Olofsson et al. disclose using carrier-to-interference power ratio (Column 5, line 65 – Column 6, line 3).

With respect to claims 22, the radio apparatus of Olofsson et al. is described above in the discussion of claim 21. Olofsson et al. teach detecting base station capabilities and forming an index value from these detected values in steps 3 and 4 of figure 3 (Column 5, lines 56). Olofsson et al. do not expressly disclose that the transmission power is part of the information about the base station and mobile station capabilities. However, Todd et al. disclose a radio apparatus that detects power and quality levels (abstract) and judges the communication rate according to these measurements thus making it analogous art. Todd et al. teach detecting transmission power value, RSSI_REV, from an instruction information included in the received signal (Column 4, lines 63-67). Todd et al. further teach calculating an index value based on the transmission power value and maximum transmission power value (Column 6, lines 34-42). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicants invention to apply Todd et al.'s transmission power detecting technique in the apparatus of Olofsson et al. in order to judge the communication rate on whichever link, forward or reverse, is the limiting link.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gurelli et al. (U.S. 6,847,809) disclose a wireless communication data rate control prediction system. Ramesh (U.S. 6,463,105) disclose a method of estimating carrier-to-interference ratio in a radio apparatus. Wu et al. (U.S. 6,426,971)

disclose system of predicting a quality of a signal to improve communication. Umeda et al. (U.S. 6,909,905) disclose adjusting the communication rate based on the quality of the signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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